

DC-8 11/12/16 - 11/13/16

Aircraft:

[DC-8](#) ([See full schedule](#))

Flight Number:

1159

Payload Configuration:

OIB-ATM NAV/ATM GPS/ATM-T5/T6/ATM FLIR/ATM CAMBOT MCoRDS/SNOW/Ku RADAR DMS/POS-AV
GRAVIMETER & ARMAS (piggyback)

Nav Data Collected:

Yes

Total Flight Time:

11.1 hours

Submitted by:

Timothy Moes on 11/13/16

Flight Segments:

| | | | |
|---------------------------|---|----------------|------------------|
| From: | SCCI - Punta Arenas | To: | SCCI |
| Start: | 11/12/16 13:13 Z | Finish: | 11/13/16 00:19 Z |
| Flight Time: | 11.1 hours | | |
| Log Number: | 178010 | PI: | Nathan Kurtz |
| Funding Source: | Bruce Tagg - NASA - SMD - ESD Airborne Science Program | | |
| Purpose of Flight: | Science | | |
| Comments: | Good Flight. This was a new flight, designed to improve the density of the 2009 survey lines over the Abbott Ice Shelf. All science instruments recorded good data and 98% cloud free in the target areas. The aircraft had a few minor writeups, but no grounding items. | | |

Flight Hour Summary:

| | |
|---------------------------------------|---------------|
| | 178010 |
| Flight Hours Approved in SOFRS | 300 |
| Total Used | 306.9 |
| Total Remaining | -6.9 |

178010 Flight Reports

| Date | Flt # | Purpose of Flight | Duration | Running Total | Hours Remaining |
|-------------------------------------|-------|-------------------|----------|---------------|-----------------|
| 10/04/16 | 1135 | Science | 4 | 4 | 296 |
| 10/05/16 | 1136 | Science | 2.7 | 6.7 | 293.3 |
| 10/12/16 | 1138 | Transit | 10.9 | 17.6 | 282.4 |
| 10/12/16 | 1139 | Transit | 3 | 20.6 | 279.4 |
| 10/14/16 - 10/15/16 | 1140 | Science | 10.9 | 31.5 | 268.5 |
| 10/15/16 - 10/16/16 | 1141 | Science | 11.8 | 43.3 | 256.7 |
| 10/17/16 - 10/18/16 | 1142 | Science | 11.8 | 55.1 | 244.9 |
| 10/20/16 - 10/21/16 | 1143 | Science | 11.4 | 66.5 | 233.5 |
| 10/22/16 | 1144 | Science | 11 | 77.5 | 222.5 |
| 10/24/16 - 10/25/16 | 1145 | Science | 11.5 | 89 | 211 |
| 10/25/16 - 10/26/16 | 1146 | Science | 11.3 | 100.3 | 199.7 |
| 10/26/16 - 10/27/16 | 1147 | Science | 12.1 | 112.4 | 187.6 |
| 10/27/16 - 10/28/16 | 1148 | Science | 11.5 | 123.9 | 176.1 |
| 10/28/16 - 10/29/16 | 1149 | Science | 11 | 134.9 | 165.1 |
| 10/31/16 - 11/01/16 | 1150 | Science | 11 | 145.9 | 154.1 |
| 11/02/16 - 11/03/16 | 1151 | Science | 11.2 | 157.1 | 142.9 |
| 11/03/16 - 11/04/16 | 1152 | Science | 11.5 | 168.6 | 131.4 |
| 11/04/16 - 11/05/16 | 1153 | Science | 11.1 | 179.7 | 120.3 |
| 11/05/16 - 11/06/16 | 1154 | Science | 11.7 | 191.4 | 108.6 |
| 11/07/16 - 11/08/16 | 1155 | Science | 11.2 | 202.6 | 97.4 |

| | | | | | |
|-------------------------------------|------|---------|------|-------|------|
| 11/09/16 - 11/10/16 | 1156 | Science | 11.7 | 214.3 | 85.7 |
| 11/10/16 | 1157 | Science | 10.9 | 225.2 | 74.8 |
| 11/11/16 - 11/12/16 | 1158 | Science | 11.3 | 236.5 | 63.5 |
| 11/12/16 - 11/13/16 | 1159 | Science | 11.1 | 247.6 | 52.4 |
| 11/14/16 | 1160 | Science | 10.9 | 258.5 | 41.5 |
| 11/15/16 - 11/16/16 | 1161 | Science | 11.6 | 270.1 | 29.9 |
| 11/17/16 - 11/18/16 | 1162 | Science | 11.1 | 281.2 | 18.8 |
| 11/18/16 - 11/19/16 | 1163 | Science | 11.1 | 292.3 | 7.7 |
| 11/21/16 | 1165 | Transit | 11.6 | 303.9 | -3.9 |
| 11/21/16 | 1164 | Transit | 3 | 306.9 | -6.9 |

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

Related Science Report:

OIB - DC-8 11/12/16 Science Report

Mission:

OIB

Mission Summary:

Mission: Abbott 02 (priority: high)

This is a new flight, designed to improve the density of the 2009 survey lines over the Abbott Ice Shelf. For the western two-thirds of the ice shelf, we interlace the 2009 north-south lines with parallel lines, since the 2009 survey showed that the most significant bathymetric features in this area are oriented in an east-west direction, across the axis of the flight lines. The easternmost third of the ice shelf lies in a different tectonic setting where the most important bathymetric features may be oriented in a north-south direction, so there we orient the flight lines east-west.

A tough decision between two very different missions today. We ultimately favored a strong forecast for the Abbott Ice Shelf region, and we were better rewarded for that decision than yesterday. The clouds cleared as we descended for the first waypoint and we avoided them for nearly the entire flight. ATM/FLIR/CAMBOT/DMS lost a few minutes of data at irregular intervals to small clouded areas, which we were able to easily ascend over. Good views of the terminus of Abbott Ice Shelf, new ground on the poorly surveyed Cosgrove Ice Shelf, and also an uncommon low-altitude overflight of Rignot Glacier, named after Eric Rignot, OIB's land ice science team lead. This glacier drains into the western end of Abbott Ice Shelf. Unfortunately, by that point in the survey the light was too flat to discern the glacier well photographically. Overall, a successful survey of an infrequently visited region.

All instruments performed well.

We conducted a ramp pass at 1500' on departure from PUQ.

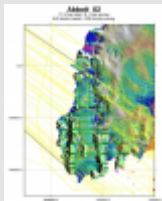
Attached images are:

1. Map of today's flight.
2. Nunataks on Thurston Island (NASA / John Sonntag).
3. DC-8 shadow against crevasses on Abbott Ice Shelf (NASA / Joe MacGregor).
4. Elevation along the eastern flank of Rignot Glacier, approximately 0-100 s in the plot (WFF ATM / Jim Yungel)
5. MCoRDS and snow radar data collection over a transition from grounded ice to the floating Abbott Ice Shelf, showing the change in bed echo intensity and the detailed layering

of the near-surface (KU / Carl Leuschen)

Images:

Map of today's flight



[Read more](#)

Nunataks on Thurston Island



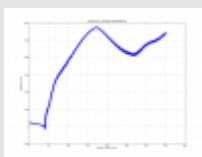
[Read more](#)

DC-8 shadow against crevasses on Abbott Ice Shelf



[Read more](#)

Elevation along the eastern flank of Rignot Glacier, approximately 0-



[Read more](#)

MCoRDS and snow radar data collection over a transition from



[Read more](#)

Submitted by:

Joseph MacGregor on 11/15/16

Page Editor: Erin Justice

NASA Official: Bruce A.

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